

**To:** Secretary, Federal Communications Commission  
**cc:** FCC Commissioners  
**From:** David Crowe, Cellular Networking Perspectives Ltd.  
**Subject:** Comments on 9-1-1 NPRM (FCC 94-237, Docket 94-102)  
**Date:** December 21, 1994

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Cellular Networking Perspectives Ltd., has the following comments on the FCC Notice of Proposed Rule-making for "Enhanced Emergency Calling Systems". Cellular Networking Perspectives Ltd. is a cellular telecommunications consulting company.

**Item 39, pp. 19-20**

This item implies that a mobile station will transmit ANI and ALI information. In fact much information about the mobile identification may come from the mobile's home system (HLR) and location information may come from the base station, without mobile participation (e.g. based on multiple measurements of the mobile's transmitted signal strength). Also, the terms ANI and ALI do not apply, as true mobile identification cannot be transmitted as ANI (which has to be a North American directory number). ALI is a translation between a phone number and a street address. Location information in wireless systems will neither come from a phone number nor be provided as a street address (at least with current or near term technology).

**Item 50, page 24**

In response to the invitation for comment on the statement that "If a signal is received by more than one cell site, we assume that the site at which the signal is strongest becomes the controlling site for the call". This is true at the start of the call, but may not be true later in call processing.

More importantly, this item strongly implies that signal strength can only be measured at one cell. Actually, to support handoff, signal strength measurements can be made at any time from several neighbouring cells and reported to the one currently serving the call. This is even possible between neighbouring systems when the TIA IS-41 standard is implemented. It may be possible to obtain more accurate location information utilizing this existing capability.

**Item 51, page 25**

We question the usefulness of altitude information with an accuracy radius of 125 meters. Only in the tallest of buildings would this be even marginally useful. An emphasis on the provision of handheld locating devices may be more useful, at least in cases where the cellular terminal is not powered off, or can be forced to remain on.

**Item 52, pages 25-26**

Call back capability cannot be provided by the subscriber's directory number or billing number (as these will route the call to the subscriber's home system). Two options are to use the MIN with a two-stage dialing procedure (one to access the roamer port on a cellular system and a second to enter the MIN) or to associate a Temporary Local Directory Number (TLDN) to each 9-1-1 caller for a period of time following the 9-1-1 call. The Roamer Port and TLDN technique are already used in most cellular systems for routing to roamers. Both would require some

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modifications to provide 9-1-1 callback.

**Item 53, pages 26-27**

Use of SS7 call setup procedures are possible, but will waste the investment in analog switching equipment used today in 9-1-1 systems. A preferable alternative is to retain the current voice interface and add a separate data link. The connection between a voice call and the datalink could be made through careful use of the ANI capability (e.g. by transmitting the same TLDN as ANI and in related datalink messages). This would be a more robust solution as the call could be processed even if datalink information is not available.

We further suggest that the datalink protocol be based on the TIA IS-41 standard for inter-system operations, as this standard is developed by the TIA TR45 committee which is familiar with most wireless network issues, unlike SS7 which is designed by a standards committee (ATIS T1) conversant mostly with landline network issues. In addition, the IS-41 protocol currently transports subscriber profile information from the home system (HLR) to the visited system. This capability could be enhanced to provide the transmission of special emergency-related information that could be stored at the HLR.

The use of the IS-41 protocol may offer a cost saving as it currently runs on either X.25 or SS7 datalinks. For small systems, X.25 may offer significant cost savings. X.25 to SS7 conversion equipment may be required in some cases, but that readily available as it is commonly used in cellular networks.

Respectfully submitted,



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